CLAIMS:

1. A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover;

providing a beamsplitter, and providing a motion picture film camera type of lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.

2. The method as defined by claim 1, wherein said step of providing a beamsplitter comprises providing a pellicle beamsplitter.

3. The method as defined by claim 1, wherein said step of providing a color sensor having a color filter thereover comprises providing a color sensor with a two-color checkerboard filter pattern.

4. The method as defined by claim 2, wherein said step of

providing a color sensor having a color filter thereover comprises providing a color sensor with a two-color checkerboard filter pattern.

5. The method as defined by claim 3, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-blue checkerboard filter pattern.

6. The method as defined by claim 3, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-green checkerboard filter pattern.

7. The method as defined by claim 2, wherein said step of providing a pellicle beamsplitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

8. The method as defined by claim 3, wherein said step of providing a pellicle beamsplitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

9. The method as defined by claim 7, further comprising the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image

that is focused on said color sensor.

10. The method as defined by claim 8, further comprising the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor.

11. The method as defined by claim 10, further comprising the step of applying ultrasonic excitation to said pellicle along diagonal directions with respect to vertical and horizontal reference directions of said color sensor to effect optical pre-filtering of the light focused on said color sensor.

12. The method as defined by claim 1, further comprising the step of providing optical pre-filtering of light from said image that is focused on said color sensor.

13. The method as defined by claim 3, further comprising the step of providing optical pre-filtering of light from said image that is focused on said color sensor.

14. The method as defined by claim 12, wherein said step of providing optical pre-filtering comprises providing a grating in the path of light from said image that is focused on said color sensor.

15. The method as defined by claim 13, wherein said step of providing optical pre-filtering comprises providing a grating in the path of light from said image that is focused on said color sensor.

16. The method as defined by claim 13, wherein said step of providing a grating includes orienting lines of said grating on a diagonal with respect to vertical and horizontal reference directions of said color sensor.

17. The method as defined by claim 15, wherein said step of providing a grating includes orienting lines of said grating on a diagonal with respect to vertical and horizontal reference directions of said color sensor.

18. The method as defined by claim 1, further comprising the step of providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system.

19. The method as defined by claim 3, further comprising the step of providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system.

20. The method as defined by claim 1, wherein said step of providing a beamsplitter comprises providing a rotating

mechanical shutter that includes an open sector and a mirrored sector in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

21. The method as defined by claim 3, wherein said step of providing a beamsplitter comprises providing a rotating mechanical shutter that includes an open sector and a mirrored sector in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

22. The method as defined by claim 1, wherein said step of providing a beamsplitter comprises providing a rotating mechanical shutter that includes an open sector, a mirrored sector, and a dark sector, in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

23. The method as defined by claim 3, wherein said step of providing a beamsplitter comprises providing a rotating mechanical shutter that includes an open sector, a mirrored sector, and a dark sector, in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

24. The method as defined by claim 2, wherein said step of

providing a pellicle beamsplitter comprises providing a pellicle having a dichroic coating thereon.

25. The method as defined by claim 2, wherein said step of providing a pellicle beamsplitter comprises providing a pellicle having a dichroic coating thereon that directs the proper proportion color components of luminance to the luminance sensor.

26. Apparatus for producing electronic video signals representative of color images of a scene, comprising:

a luminance sensor;

a color sensor having a color filter thereover;

a beamsplitter;

a film camera type of lens system, arranged to focus light from said image, via said beamsplitter, onto said luminance sensor and said color sensor; and

means for producing electronic video signals from outputs of said luminance sensor and said color sensor.

27. Apparatus as defined by claim 26, wherein said beamsplitter comprises providing a pellicle beamsplitter.

28. Apparatus as defined by claim 26, wherein said color filter comprises a two-color checkerboard filter pattern.

29. Apparatus as defined by claim 27, wherein said color filter comprises a two-color checkerboard filter pattern.

30. Apparatus as defined by claim 28, wherein said two-color checkerboard filter pattern comprises a red-blue checkerboard filter pattern.

31. Apparatus as defined by claim 28, wherein said two-color checkerboard filter pattern comprises a red-green checkerboard filter pattern.

32. Apparatus as defined by claim 27, wherein said pellicle beamsplitter comprises a pellicle that is also operative as an opto-acoustical low pass filter.

33. Apparatus as defined by claim 26, further comprising an optical pre-filter for pre-filtering light from said image that is focused on said color sensor.

34. Apparatus as defined by claim 33, wherein said optical pre-filter comprises a grating with grating lines oriented on a diagonal with respect to vertical and horizontal reference directions of said color sensor.

35. Apparatus as defined by claim 26, further comprising a

rotating mechanical shutter in the path of light from said image that is focused by said lens system.

36. Apparatus as defined by claim 26, wherein said beamsplitter comprises a rotating mechanical shutter that includes an open sector, a mirrored sector, and a dark sector, in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

37. A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover, said color filter comprising a two-color checkerboard filter pattern;

providing a beamsplitter, and providing lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.

38. The method as defined by claim 37, wherein said step of providing a beamsplitter comprises providing a pellicle beamsplitter.

39. The method as defined by claim 37, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-blue checkerboard filter pattern.

40. The method as defined by claim 38, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-green checkerboard filter pattern.

41. The method as defined by claim 38, wherein said step of providing a pellicle beamsplitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

42. The method as defined by claim 38, further comprising the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor.

43. The method as defined by claim 38, further comprising the step of applying ultrasonic excitation to said pellicle along diagonal directions with respect to vertical and horizontal reference directions of said color sensor to effect optical pre-filtering of the light focused on said color sensor.

44. The method as defined by claim 37, further comprising the step of providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system.

45. The method as defined by claim 37, wherein said step of providing a beamsplitter comprises providing a rotating mechanical shutter that includes an open sector and a mirrored sector in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

46. The method as defined by claim 37, wherein said step of providing a beamsplitter comprises providing a rotating mechanical shutter that includes an open sector, a mirrored sector, and a dark sector, in the path of light from said image, so as to achieve temporal beamsplitting of said light from said image.

47. A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover;

providing a pellicle beamsplitter, and providing a lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.

48. The method as defined by claim 47, wherein said step of providing a pellicle beamsplitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

49. The method as defined by claim 48, further comprising the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor.

50. A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover;

providing a temporal beamsplitter, and providing a lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor;

said step of providing a beamsplitter comprising providing a rotating mechanical shutter that includes an open sector, a mirrored sector, and a dark sector, in the path of

light from said image.